

REMARKS

Claims 1-5, 7-13, 15-22, 24-32, and 34-41 are pending in the present application. Claims 1-5, 7-13, 15-22, 24-32, and 34-41 were rejected. Applicants have amended Claims 1, 2, 4, 7, 9, 10, 12, 15, 17, 19, 21, 25, 27, 31, 32, 35, and 39. Applicants have cancelled Claims 3, 11, 18, 29, and 30, without prejudice. Applicants have added Claim 42. Reconsideration is respectfully requested in light of the present amendments and following remarks. The above amendments and following remarks are believed to be fully responsive to the Outstanding Office Action. Upon entry of these amendments and consideration of these remarks, Applicants submit that all of the pending Claims will be allowable.

Claim Objections

Claim 1 was objected to because “pin shoulder” should be “the pin shoulder.” Claim 1 has been amended such that “pin shoulder” is now “the pin shoulder.”

Claim 2 was objected to because “the shoulder” requires proper antecedent basis since there are two shoulders recited in Claim 1. Claim 2 has been amended such that “the shoulder” is now “the pin shoulder.”

Applicants wish to thank the Examiner for pointing out these informalities in the present application and submit that the Claim amendments are fully responsive to the objections. Accordingly, Applicants respectfully request that the objections to Claims 1 and 2 be withdrawn.

Claim Rejections - 35 USC § 112

Claims 27-32 and 34 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly Claim the subject matter which applicant regards as the invention because there are alleged inconsistencies between the body and the preamble.

Claim 27 is directed to a housing (for use in connecting a pin), and although this Claim has been amended to overcome other Claim rejections, there is no positive limitation on the pin itself within Claim 27. The limitations claimed on the housing, namely, the locking finger and the shoulder, simply prevent movement of the pin and the pin itself does not have any positive limitations. Claim 27 is Claiming the housing that limits movement of the pin, not the pin. Applicants submit that the scope of Claim 27 would be clear to a hypothetical person possessing the ordinary level of skill in the pertinent art. Therefore, the rejection of Claim 27 under 35 USC § 112 is respectfully traversed and Applicants request that the rejection of Claim 27 be withdrawn.

Claim 28 depends from Claim 27 and contains only positive limitations to the housing, and more specifically the locking fingers. The rejection of Claim 28 is respectfully traversed for at least this and the reasons stated above in connection with Claim 27, and Applicants request that the rejection of Claim 28 be withdrawn.

Claims 29 and 30 have been cancelled without prejudice.

Claim 31 depends from Claim 27 and contains only positive limitations to the housing, and more specifically the material of the housing. The rejection of

Claim 31 is respectfully traversed for at least this and the reasons stated above in connection with Claim 27, and Applicants request that the rejection of Claim 28 be withdrawn.

Claim 32 has been amended such that the housing is not recited whatsoever within this Claim. Claim 34 depends from Claim 32. Therefore, Applicants respectfully request that the rejections of Claims 32 and 34 be withdrawn.

Claim Rejections - 35 USC § 102

Claims 27, 29 and 30:

Claims 27, 29, and 30 were rejected under 35 U.S.C. § 102(b) as being anticipated by Clark (US 3,727,172). Applicants respectfully request reconsideration of these rejections in light of the present amendments and the following remarks.

The Office Action states that Clark discloses a housing comprising a hollow internal channel comprising a shoulder and at least one locking finger disposed within the hollow internal channel and disposed distally from the shoulder.

Although Clark discloses a finger 42 and a face 45 (shoulder) to locate the contact 13 (pin), the finger 42 is disposed proximally from the face 45, not distally from the face. The face 45 of Clark is also disposed on a separate member, namely the disc 14, and the finger 42 is disposed on another disc 15. Therefore, the finger 42 and the face 45 are located on separate elements of the connector,

not on the same element as the locking finger and the shoulder according to the claimed embodiment. Additionally, the Applicants have amended Claim 27 such that the locking finger and the shoulder are integral to the housing. Because the locking finger of the Claim 27 is disposed distally from the shoulder and because the locking finger and shoulder are integral with the housing, Claim 27 cannot be anticipated by Clark. Accordingly, Applicants respectfully request that the rejection of Claim 27 be withdrawn.

Claims 29 and 30 have been cancelled without prejudice.

Claim 32:

Claim 32 was rejected under 35 U.S.C. § 102(b) as being anticipated by Clark et al. (US 5,820,409). Applicants respectfully request reconsideration of these rejections in light of the present amendments and the following remarks.

The Office Action states that Clark et al. disclose a pin comprising a first collar comprising a shoulder and a second collar disposed proximally from the first collar.

Claim 32 has been amended to include the limitation of a tapered portion extending between the first collar and the second collar to secure the pin within the plasma arc apparatus. Clark et al. does not disclose a tapered portion extending between the first portion and the second portion that secures the pin. Moreover, the pin of Clark et al. is not a pin for use in a plasma arc apparatus. The distinction being that the pin according to the claimed embodiment conducts both gas and electric power, while the pin of Clark et al. conducts only electric power. Since Clark et al. does not disclose a pin for use in a plasma arc

apparatus that includes a tapered portion extending between a first collar and a second collar to secure the pin, Clark et al. cannot anticipate amended Claim 32. Accordingly, Applicants respectfully request that the rejection of Claim 32 be withdrawn.

Claim Rejections - 35 USC § 103

Claim 28:

Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark in view of Eifler (US 4,406,507). Applicants respectfully request reconsideration of this rejection in light of the present amendments and the following remarks.

The Office Action states that Clark discloses the invention substantially as claimed but does not disclose eight locking fingers, that Eifler teaches six fingers, and that it would have been obvious to one having ordinary skill in the art to modify the housing of Clark with eight fingers as Eifler teaches.

Claim 28 depends from Claim 27 and distinguishes over Clark in view of Eifler for at least the reasons given above in connection with Claim 27. Therefore, the claimed embodiment in Claim 28 is not obvious and Applicants respectfully request that the rejection of Claim 28 be withdrawn.

Claim 31:

Claim 31 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark. Applicants respectfully request reconsideration of this rejection in light of the present amendments and the following remarks.

The Office Action states that Clark discloses the invention substantially as claimed but does not disclose the housing and locking finger comprising a fiber-reinforced nylon, and that it would have been obvious to one having ordinary skill in the art to choose a fiber-reinforced nylon material.

Claim 31 depends from Claim 27 and distinguishes over Clark for at least the reasons given above in connection with Claim 27. Therefore, the claimed embodiment in Claim 31 is not obvious and Applicants respectfully request that the rejection of Claim 31 be withdrawn.

Claim 34:

Claim 34 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark et al. Applicants respectfully request reconsideration of this rejection in light of the present amendments and the following remarks.

The Office Action states that Clark et al. disclose the invention substantially as claimed but do not disclose the pin comprising brass, and that it would have been obvious to one having ordinary skill in the art to choose brass for the pin.

Claim 34 depends from Claim 32 and distinguishes over Clark et al. for at least the reasons given above in connection with amended Claim 32. Therefore, the claimed embodiment in Claim 34 is not obvious and Applicants respectfully request that the rejection of Claim 34 be withdrawn.

Claims 1-4, 7, 9, 17-19, and 35-41:

Claims 1-4, 7, 9, 17-19, and 35-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark et al. in view of Clark. Applicants respectfully

request reconsideration of this rejection in light of the present amendments and the following remarks.

The Office Action states that Clark et al. disclose the invention as claimed but fails to disclose the channel comprising a shoulder that engages the second collar of the pin and that Clark teaches a shoulder that engages with a second collar of the pin, which would result in one having ordinary skill in the art to add a shoulder of Clark to the channel of the housing of Clark et al.

With regard to Claim 1, the shoulder that prevents movement of the pin in the distal direction is disposed proximally from the locking finger. The shoulder of Clark however, is disposed distally from the finger, which essentially allows access to the locking fingers, thereby providing for removal of the pin. This feature teaches away from the claimed invention which blocks access to the locking finger. Additionally, the shoulder of Clark is located on a separate element (disc 14) and the finger is located on another element (disc 15), which allows for disassembly and access to the pin for removal, again teaching away from the claimed invention. Therefore, Claim 1 has been amended to include the limitation that the shoulder and locking finger are integral with the housing and that the second collar blocks access to the locking fingers through the first portion of the hollow internal channel. Since the shoulder and locking finger of Clark are not integral with a housing and access to the locking finger is not blocked, and since there is no teaching or suggestion to combine the Clark and the Clark et al. references, Claim 1 cannot be obvious. For at least these

reasons, Applicants respectfully request that the rejection of Claim 1 be withdrawn.

Claims 2, 4, 7, and 9 depend from Claim 1 and distinguish over the cited references for at least the reasons stated above in connection with Claim 1. Therefore, Applicants respectfully request that the rejection of Claims 2, 4, 7, and 9 be withdrawn.

Claim 3 has been cancelled without prejudice.

The Office Action further states that with regard to Claim 17, Clark et al. disclose the invention except for the channel comprising a shoulder that engages the second collar of the pin, that Clark teaches a shoulder that engages with a second collar of the pin, and that adding such a shoulder to Clark et al. would have been obvious to one having ordinary skill in the art.

As stated above in connection with Claim 1, the shoulder of Claim 17 is disposed proximally from the locking finger, whereas the shoulder of Clark is disposed distally from the finger, which allows for access to the locking fingers for removal of the pin. Additionally, Claim 17 has been amended to add the limitation that the locking finger and the shoulder are integral with the housing, which is neither taught or suggested by Clark. Therefore, for at least these and the reasons stated above in connection with Claim 1, Claim 17 cannot be obvious. Therefore, Applicants respectfully request that the rejection of Claim 17 be withdrawn.

Claim 18 has been cancelled without prejudice.

Claim 19 depends from Claim 17 and distinguishes over the cited references for at least the reasons stated above in connection with Claim 17. Therefore, Applicants respectfully request that the rejection of Claim 19 be withdrawn.

With regard to Claim 35, the Office Action states that Clark et al. discloses the invention except for the shoulder that engages the second collar of the pin, that Clark teaches a shoulder that engages with a second collar of the pin, and that adding such a shoulder to Clark et al. would have been obvious to one having ordinary skill in the art.

As stated above in connection with Claims 1 and 17, the shoulder of Claim 35 is disposed proximally from the locking fingers, whereas the shoulder of Clark is disposed distally from the fingers, which allows for access to the locking fingers for removal of the pin. Additionally, Claim 35 has been amended to add the limitation that the locking fingers and the shoulder are integral with the housing, which is neither taught or suggested by Clark. Moreover, neither Clark nor Clark et al. teach or suggest a connector for a plasma arc apparatus to provide both fluid and electric power. The connectors of Clark and Clark et al. are electrical connectors only. Therefore, for at least these and the reasons stated above in connection with Claims 1 and 17, Claim 35 cannot be obvious. Therefore, Applicants respectfully request that the rejection of Claim 35 be withdrawn.

Claims 36-38 depend from Claim 35 and distinguish over the cited references for at least the reasons stated above in connection with Claim 35.

Therefore, Applicants respectfully request that the rejection of Claim 35 be withdrawn.

Claims 5 and 20:

Claims 5 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark et al. in view of Clark, further in view of Eifler. Applicants respectfully request reconsideration of these rejections in light of the present amendments and the following remarks.

The Office Action states that Clark discloses the invention substantially as claimed but does not disclose eight locking fingers, that Eifler teaches six fingers, and that it would have been obvious to one having ordinary skill in the art to modify the housing of Clark with eight fingers as Eifler teaches.

Claim 5 depends from Claim 1 and Claim 20 depends from Claim 17 and distinguish over the cited references for at least the reasons stated above in connection with Claims 1 and 20, respectively. Therefore, Applicants respectfully request that the rejection of Claims 5 and 20 be withdrawn.

Claims 8, 10-12, 15, 16, 21, and 24-26:

Claims 8, 10-12, 15, 16, 21, and 24-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Clark et al. in view of Clark, further in view of Applicant's Admitted Prior Art ("A.A.P.A."). Applicants respectfully request reconsideration of these rejections in light of the present amendments and the following remarks.

The Office Action states that Clark et al. in view of Clark disclose the invention substantially but do not disclose the pin being a gas carrying pin, and

that in light of A.A.P.A. it would have been obvious to one having ordinary skill in the art to modify the pin of Clark et al. with a gas carrying pin.

Claim 8 depends from Claim 1 and distinguishes over the cited references for at least the reasons stated above in connection with Claim 1. Claims 10 and 21 have been amended to require that the locking fingers are integral with the housing and the second collar of the negative gas carrying pin blocks access to the locking fingers. As discussed above in connection with Claim 1, Clark does not disclose locking fingers integral with a housing wherein the locking fingers prevent movement of the pin in a proximal direction and the housing prevents movement of the pin in a distal direction. Furthermore, access to the locking fingers is not blocked in Clark. The negative lead gas carrying pin according to the claimed embodiment is secured within the housing such that removal of the pin cannot be achieved without physically damaging a portion of the connector. Moreover, the connectors of Clark and Clark et al. are not connectors for use in a plasma arc apparatus. Since neither Clark nor Clark et al. disclose a housing with integral locking fingers that prevent movement of the pin in a proximal direction and a housing preventing movement in a distal direction, and further a connector that blocks access to the locking fingers, Claims 10 and 21 cannot be obvious. Therefore, Applicants respectfully request that the rejections of Claims 8, 10, and 21 be withdrawn.

Claim 11 has been cancelled without prejudice.

Claims 12, 13, 15, and 16 depend from Claim 10, and Claims 22, and Claims 24-26 depend from Claim 21 and distinguish over the cited references for

at least the reasons stated above in connection with Claims 10 and 21.

Therefore, Applicants respectfully request that the rejections of Claims 12, 13, 15, 16, 22, and 24-26 be withdrawn.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7500.

Respectfully submitted,

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